

**Effective Tax Rate for Selected Property Classes**  
**Tax Years 1999 to 2006**  
**Table One**

	1999	2000	2001	2002	2003	2004	2005	2006	% Change 1999-2006	00-06
Class 4 Residential w/sales ratio adjustment <sup>1</sup>	0.9%	0.9%	0.9%	1.0%	1.0%	1.0%	1.0%	0.9%	-1%	0%
Class 4 Commercial w/sales ratio adjustment <sup>2</sup>	0.9%	0.9%	1.0%	1.0%	0.8%	0.8%	0.8%	0.7%	-21%	-19%
Class 5 Pollution Control	1.0%	1.1%	1.1%	1.2%	1.3%	1.3%	1.3%	1.3%	29%	22%
Class 7 Non-Centrally Assessed Utilities	3.0%	4.1%	4.3%	4.5%	4.7%	4.7%	5.0%	5.0%	70%	23%
Class 8 Business Equipment	2.4%	1.3%	1.3%	1.4%	1.5%	1.5%	1.5%	1.5%	-37%	20%
Class 9 (split) Non-Electric Property of Electric Utilities <sup>3</sup>	4.8%	4.9%	5.0%	5.4%	5.8%	5.7%	5.9%	5.9%	22.5%	21%
Class 12 Railroad and Airline Property	2.4%	1.7%	1.8%	1.8%	1.9%	1.8%	1.9%	1.8%	-24.9%	2%
Class 13 (split) Telecommunications & Electric Property <sup>3</sup>	3.4%	1.9%	2.0%	2.2%	2.3%	2.3%	2.2%	2.1%	-38%	9%

- 1 Between 1996-2002, sales analysis found the market value for residential property had grown 24% over the six year reappraisal cycle. To reflect this market difference, the assessment value for residential property was adjusted to reflect the
- 2 Analysis done for the Class 12 tax rate study commercial property found that the market value of commercial was 66% to 100% more than the assessment value. The market value for Class 4 commercial was adjusted to reflect the true market value
- 3 In 1999, the legislature created property Class 13 with a taxrate of 6% for electrical generation and telecommunications property that was previously in Class 9 at a tax rate of 12%. The split above shows the treatment of this property had



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March 9, 2007

Dear Montana Legislator,

MASCD is a non-union and non-partisan organization of 470 educators from across Montana that examines state and local education matters and advocates for sound educational professional practice. We focus on professional practice within the context of "Is it good for the children?"

MASCD sponsors professional development designed to bring effective practices to Montana schools. Our goal is to assist our state and local leaders by providing important information regarding Montana's diverse school environments.

MASCD would like to share our latest newsletter, *InfoClips*, with you. This edition of *InfoClips* contains Montana educator perspectives on *No Child Left Behind* and on *Full-Time Kindergarten*. These are two key issues in the legislative debate about providing a quality education for all Montana students.

Please contact us if you would be interested in receiving the newsletter in the future. We would be happy to include you in our future newsletter mailings.

Thank you for your commitment to provide a quality education for all Montana students.

Sincerely,

Jan Jamruszka-Wilson, Teacher

MASCD President

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Helena, Montana 59601

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Montana Association for Supervision and Curriculum  
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**INFOCLIPS**

the mascd newsletter

## MASCD Goals

### Goal 1

Expand the sphere of our influence by being a strong and proactive organization dedicated to providing exemplary leadership and support for educators throughout the state.

### Goal 2

Make member services a priority in order to assure that across this geographically expansive and isolated state, we have a membership that represents all counties and includes a diverse array of cultures.

### Goal 3

Address pressing contemporary issues for the purpose of bringing an awareness of critical concerns to our educational leaders, who will participate in determining responses appropriate to our diverse rural Montana school environment.

## Inside this Issue:

- You Want Me to Read 2  
my Math Book?
- Position Paper: Full 3  
Time Kindergarten
- Montana Educators' 4  
Summer Institute  
2007

## No Child Left Behind—But at What Cost?

By Dr. Christine Wortman-Engren,  
Curriculum Director - Great Falls Public Schools

The No Child Left Behind Act (NCLB) is always on my mind. It is on my mind when I work with teachers to write new curriculum; it is on my mind when we advertise for "highly qualified" teachers; it is on my mind when I look at my March and April calendars; and it is on my mind when the principals ask when we will know if they made Adequate Yearly Progress (AYP). It is also on my mind as I ponder the ramifications implicit in the requirements of the mandate.

NCLB will ultimately impact our students in a variety of ways. I know the plan really is to leave no child behind by insuring that all students have basic skills in reading and math. However, I also am bothered by the narrow focus educators are taking as we struggle to meet these mandates. Let me be clear. To the extent that educators do a better job for all students in the delivery of instruction, I think NCLB has had a positive impact. To the extent that teachers and principals are more data-driven in their instructional decisions, NCLB has also been a good thing. As we seek to close the gap, we do better by our marginal students. This is all good.

I wonder though, how this will all play out. On the State CRT proficiency levels, roughly a third more 10<sup>th</sup> grade white students pass the test compared to their Native American peers. That's not all. The state dropout rate for Native students is three times that of white students. What is really ugly about these numbers is that the 10<sup>th</sup> grade CRT scores reflect our most successful Native students. The less successful students have already given up on education and left school.

"Indian Education for All" has been around since 1972 when the state recognized the distinct and unique cultural heritage of the American Indians. In 1999 House Bill 528 provided a mandate but was not funded until the 59<sup>th</sup> Legislature in 2005 included IEA in the Montana Definition of Quality Public Education. Now, educators must balance that legal and moral obligation and write curriculum that is relevant, accurate and rigorous. Excellent! All is well. Or, is it?

Remember that third of the Native American students who didn't pass the CRT? What are we doing to make sure they can pass this important measure? Some responses to this pressure have been to utilize reading and math literacy coaches, create extra reading and math times accompanied by more testing, and require literacy classes in middle and high school for those students who still haven't yet jumped the hurdle.

The rather frantic attempts to measure up to the mandates of NCLB have resulted in constraints on student instructional time that could be highly counterproductive. Elementary teachers struggle to find time for science and social studies during a day where 90 minutes of math and 90 minutes of reading are considered a minimum. How much attention have we applied to learning theory and differentiation of instruction for our struggling learners? If cultural orientation influences the way children understand their world and is one of the most important filters for Native American students, what dissonance have we created for some of our most fragile students (Cajete, 1999)?

*Continued on page 4*

**The mission of the Montana ASCD is to facilitate teaching and learning to ensure success for all Montana students.**

# You Want Me to Read my Math Book?

By Jacquie McDonald, *Teacher—Billings Senior High*

Several years ago the School Quality Planning Committee and faculty in my high school chose *literacy* as a goal for subsequent professional development opportunities. As I sat through the first sessions on teaching reading in the content areas, I realized that all examples presented were from English or history. I was baffled; how I could incorporate reading strategies into my math classes? With dozens of unanswered questions, I sought the advice of reading specialist, Terra Beth Jochems, and a reading teacher, Shirley Knopp, in my building. Both listened carefully to my concerns and offered many helpful suggestions that changed the way I teach.

I first utilized reading strategies with my Pre-Algebra students because I was not having much success with other techniques. Shirley and Terra Beth suggested I use one strategy for an entire chapter to familiarize both myself and my students with that approach. The first strategy involved identifying unfamiliar vocabulary. For this strategy, I bought highlighters and made copies of explanations for each section of the chapter for all students in the class. While I was taking roll, I asked students to read the featured section and highlight unfamiliar vocabulary. This exercise provided one of many "AH-HA!" moments during the year. While I had expected students to be unfamiliar with new vocabulary, I found that they did not know meanings of words that should be "common" to them as students in high school—*product*, *quotient*, and *integer*, for example.

I wrote identified vocabulary terms on the board, asking students to volunteer definitions or examples if they knew them. Once as many terms as possible were defined by students, I spent the remainder of the period defining vocabulary and teaching the lesson.

Printing off the reading and students identifying unknown words offered two benefits: 1) students felt that their concerns/questions were immediately addressed during the lesson, and 2) students could write comments or questions in the margins near words they had highlighted, which significantly reduced the amount of time spent taking notes.

A second effective strategy I employed was a questioning strategy. Students were given a template (or created their own) resembling the sample:

Question	Word Bank
1.	1.
2.	2.

Students then were asked to read a section of their texts, recording new vocabulary words in the Word Bank. When finished reading the section, students wrote one question for each word in the Word Bank. For example, for the word *integer*, an appropriate question might be, "What is an *integer*?" I challenged students to begin each question differently. Once students finished, I called on individuals to share important words from the Word Bank, and asked others to provide questions. All information was recorded on the board. Once the questioning activity was complete, I made sure I addressed the answers to all of questions. At the end of the lesson, I posed review questions to students. When I first started using reading strategies in Pre-Algebra classes, students' reaction was, "You want me to READ my math book?" However, after students got accustomed to the techniques, they realized several benefits:

- 1) Since answers to their questions were in the text, they did not need to continually wait for my assistance.
- 2) They became more adept at comprehending directions and story problems.
- 3) They were actively engaged in the learning process from the very beginning of the class period. Some closing thoughts include three incredibly useful sources for applying reading strategies:

Teaching Reading in Mathematics, 2<sup>nd</sup> edition; Mary Lee Barton and Clare Heidema

Available through ASCD @

<http://www.ascd.org>

Teaching Mathematics Vocabulary in Context

Miki Murray

Available through Heinemann @

[www.heinemann.com](http://www.heinemann.com)

Reading Quest.org

Available @

<http://www.readingquest.org/strat/>

Finally, I strongly encourage math teachers to collaborate with reading specialists prior to implementing strategies. While I learned about teaching reading collaborating with Terra Beth and Shirley, they also learned some math.

<http://montana.ascd.org>

# Position Paper: *Full-Time Kindergarten*

MASCD is in support of full-time kindergarten with funding for startup and facilities costs and funding for ongoing expenses. This proposal should not put 100% of the burden on local school districts. **Why invest in full-time kindergarten? *Because it works.*** Research indicates the importance and value of early childhood education. J. Elicker (2000) and S. Mathur (1997) critically reviewed research on full-time kindergarten. The research yields the following conclusions:

Children participating in full-day kindergarten consistently progress further academically during the kindergarten year, as assessed by achievement tests, than children in half-day or alternate-day programs.

There is evidence that full-day kindergarten has stronger, longer lasting academic benefits for children from low-income families or others with fewer educational resources prior to kindergarten.

There is no evidence for detrimental effects of full-day kindergarten. Developmentally appropriate curriculum for five- and six-year olds does not seem to overly stress or pressure kindergarten children.

Kindergarten teachers and parents strongly value the increased flexibility and opportunities to communicate and individualize instruction for children offered by the full-day schedule.

Practitioners and parents have attributed several benefits to full-day kindergarten:

## **Benefits to students:**

More "time and opportunity to play with language" (Fromberg, 1995), as well as to explore subjects in depth (Vecchiotti, 2001)

A more flexible, individualized learning environment (Vecchiotti, 2001)

More individual and small-group interaction with teacher than is possible in half-day classrooms (Porch, 2002; Vecchiotti, 2001)

Both national and state data suggest that full-day kindergarten appears to have a positive effect on short- and long- term student achievement. (Plucker et al., 2004)

## **Benefits to parents:**

The opportunity for lower-income families to enroll children in a higher quality early education program than might otherwise be affordable in the private market (Vecchiotti, 2001)

Less difficulty scheduling childcare and transportation (Vecchiotti, 2001)

Increased opportunities to get involved in their children's classroom, as well as to communicate with the teacher (Vecchiotti, 2001)

## **Benefits to community:**

Research by the Federal Reserve reveals economic benefit from investments in early childhood development, including less crime, more educated workers and more efficient public schools.

Data supported using: <http://www3.ksde.org> and research compiled by Northwest Regional Educational Laboratory and <http://www.minneapolisfed.org> and research compiled by Federal Reserve Bank of Minneapolis.

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<http://montana.ascd.org>

## No Child Left Behind—But at What Cost?

*Continued from page 1*

My concern isn't only that we may be failing to use the best instructional practices for our Native students. My fears are much more widespread. As pressures continue to mount to keep test scores in reading and math high, how much instructional time is taken away from social studies, music, art, health, physical education, and practical application classes like industrial technology and family and consumer sciences? These are the very classes that may be most engaging to our Native students and many other at-risk students.

If there is no time to teach by discovery; no commitment to offer culturally friendly lessons; and no deliberate design of established goals and relevant lessons, we can expect that the dropout rate will continue to increase. There is also the possibility that our much desired increasing test scores might slow, stagnate, and begin to drop.

It is time for educators to contribute in the political process. Educators, not politicians, should scrutinize the mission and vision of public education. Montana's educational leaders must be proactive and do what is right for all of our students. If we always blow with the wind, we should not be surprised when we end up in the soup.

*Many things can wait.*

*Children cannot.*

*Today their bones are being formed, their blood is being made, their senses are being developed.*

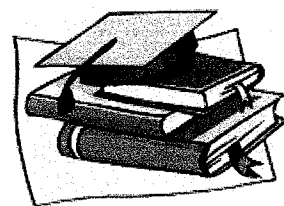
*To them we cannot say "tomorrow."*

*Their name is today.*

Gabriela Mistral (1899-1957)  
Chilean Educator

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# Close Work

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# Costs and Funding of Virtual Schools:

*An examination of the costs to start, operate, and grow virtual schools and a discussion of funding options for states interested in supporting virtual school programs.*

*A Report Prepared for the BellSouth Foundation by:  
Amy Berk Anderson, John Augenblick, Dale DeCesare and Jill Conrad*



**Augenblick, Palaich, & Associates**  
[www.apaconsulting.net](http://www.apaconsulting.net)

**October 2, 2006**

## Acknowledgements

This report is based on meetings with numerous educators and policymakers from the following organizations:

Branson School Online	Monte Vista School District (Colorado)
Colorado Legislative Staff	National Conference of State Legislatures
Colorado Online Learning	North American Council for
Colorado Virtual Academy	Online Learning
Connections Academy	North Carolina Department of Public Instruction
Florida Virtual School	Southern Regional Education Board (SREB)
Georgia Virtual School	Texas Education Agency
Idaho Association of School Administrators	Texas Tech University
Louisiana Virtual School	Vanourek Consulting Solutions
Minnesota Senate Staff	University of California College Prep Online

The list of people who participated in the meetings is provided in Appendix A.

The first draft of this report was reviewed by a sub-group of participants, along with the Michigan Virtual High School. The review was coordinated by John Watson of Evergreen Consulting Associates, who then revised the report based on reviewers' comments. The final report reflects the thoughts of the meeting participants, reviewers, and authors.



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# BellSouth 20/20 Vision for Education: *Costs and Funding of Virtual Schools*

## **Executive Summary**

Virtual schools are providing individual online instruction and increasing access to courses by providing flexibility in time, place and pace of instruction. In 2006, 24 states offer some form of statewide virtual schooling to supplement regular classes and provide for special needs and well over half of all states have significant online learning programs at the state or district level.

In its school finance work around the country, Augenblick, Palaich, and Associates (APA) was increasingly being asked about virtual schools—in particular, what we knew about the funding of such schools. In order to respond to this need for information, APA embarked on a year-long project, funded by the Bellsouth Foundation (Foundation), to examine issues related to cost and funding of virtual schools, including the cost of operating and the funding mechanisms to support such schools.

The Professional Judgment (PJ) approach was the primary data gathering method used for this research. Professional Judgment relies on the assumption that experienced educators can specify the resources hypothetical schools need in order to meet state standards, and that the costs of such resources can be determined based on a set of prices specific to those resources. APA convened two PJ panels, one of representatives of state-led supplemental programs and the other of representatives of full-time programs.

Five broad categories of costs exist for online programs: management, instruction, course development, technology set-up, and technology personnel. The cost of operating online programs can vary based on numerous factors, including:

- Program governance
- Student-teacher ratio
- Student population
- Degree of at-home vs. on-site computing
- Course completion rates
- Quality assurance, research and development
- Program size, growth, and economies of scale

Costs fall into two categories, start-up costs and ongoing costs. Results from the PJ panels suggest that a new program will require about \$1.6 million to adequately fund start-up activities in year one before providing instruction, and then between \$3650 and \$8300 per FTE student depending on program type, size, and quality, and level of investment into research, development, and innovation. The operating costs of online programs are about the same as the operating costs of a regular brick-and-mortar school. This study did

not examine costs for capital or transportation. Had it done so, the costs of operating virtual schools would have been less per pupil than brick and mortar schools since virtual schools have few expenses related to capital or transportation.

States have five primary options for funding virtual schools:

- (1) State appropriation
- (2) Funding formula tied to FTE public school funding
- (3) Course fees
- (4) No state role
- (5) A combination approach

FTE funding for online programs is a promising approach and how adjustments to such a funding formula for online programs might be different than for brick-and-mortar schools requires further study. Some options include adjustments based on the types of students served, adjustment based on technology costs, and adjustments for size.

The level of resources available to support public education, teachers' salary levels, and other variations drive the level of funding that can be committed to support virtual schools in a given state. Given these variations, a logical next step is to work with individual states and/or school districts to develop more accurate cost estimates and then to tie these estimates to state funding mechanisms in order to develop the most effective manner for funding virtual schools by state. Such an endeavor involves examining the goals of a virtual school in light of the accountability and funding requirements of the state in which it is located. Such an approach allows states to delve deeper into the issue of funding virtual schools and make comparisons that extend beyond those presented within this paper.

# Introduction



## 1. Introduction

In its school finance work around the country, Augenblick, Palaich, and Associates (APA) was increasingly being asked about virtual schools—in particular, what we knew about the funding of such schools. In order to respond to this need for information, APA embarked on a year-long project, funded by the Bellsouth Foundation (Foundation), to examine issues related to funding virtual schools. APA was charged with accomplishing the following objectives in its work for the Foundation:

1. Understand the virtual school landscape, including the types of virtual schools that exist, where such schools are located, and how they are funded.
2. Examine revenue and expenditure patterns in various types of virtual schools, across several states.
3. Explore the costs of starting and operating virtual schools of various types and sizes.
4. Compare findings on revenues and expenditures in virtual schools with those of brick-and-mortar public schools.
5. Investigate and explain state funding mechanisms for virtual schools.
6. Identify key policy issues related to funding virtual schools.

This report represents APA's final piece of work on this project and specifically addresses objectives 3-6 above. Previous work completed by APA covered the first two objectives. In order to meet the first objective, APA reviewed the existing literature on virtual schools and wrote a paper in the Fall of 2005 discussing its findings<sup>1</sup>. Subsequently, APA conducted an online survey of virtual schools in nine states in order to meet objective two and understand how virtual schools were being funded and how they were spending their resources. The results from this survey influenced the design of the work conducted and explained within this report. The survey report is available online on APA's website<sup>2</sup>.

## Methodology

APA used two approaches to collect data for this study. The primary tool used was Professional Judgment (PJ), an approach that APA uses for much of its school finance adequacy work across the country. Professional Judgment relies on the assumption that experienced educators can specify the resources hypothetical schools need in order to meet state standards, and that the costs of such resources can be determined based on a set of prices specific to those resources. Identified resources are typically divided into two groups:

- Those associated with a "base cost" that applies to all students; and
- Those associated with students who have special needs.

APA convened two PJ panels, one of representatives of state-led programs and the other of representatives of full-time programs. Each panel included a combination of school leaders, personnel who provide services to students with special needs, and school business officials (e.g., finance, technology directors). Panel participants are identified in Appendix A.

<sup>1</sup>Summary Report on Virtual School Activity, October 2005 (available online at [www.apaconsulting.net](http://www.apaconsulting.net)).

<sup>2</sup>Revenue & Expenditure Patterns in State Virtual Schools, February 2006 (available online at [www.apaconsulting.net](http://www.apaconsulting.net)).

# BellSouth 20/20 Vision for Education: *Costs and Funding of Virtual Schools*

Each panel examined the following types of resources:

- **Personnel**, including regular teachers, adjunct teachers, technology staff, psychologists, counselors, teacher aides, administrators, shipping & procurement, clerical support, etc.
- **Supplies and materials**, including textbooks and consumables.
- **Non-traditional programs and services**, including extended school day/year.
- **Technology**, including telephone, Internet, hardware, software, networking, and licensing fees.
- **Other personnel costs**, including the use of substitute teachers and time for professional development.
- **Other costs**, including security, marketing/recruitment, travel, extra-curricular programs, insurance, postage, facilities operation and maintenance, etc.

APA also convened a meeting of legislative staff members, policy analysts, and representatives from selected public and private institutions engaged in virtual school activities, in order to substantiate findings from the professional judgment panels and to identify additional issues related to virtual school funding from a state policy perspective. Initial findings were reviewed by some of the original panelists and additional reviewers, and conclusions are based on both the initial panel findings and subsequent review.

## Online education program categories

The size and scope of virtual schools vary considerably depending on such factors as programs offered, students served, the number of years the school has been operational, and whether the program is full-time, part-time, or both. For simplicity of analysis and presentation, this report presents costs for two types of programs: state-led supplemental online programs and full-time online programs. Although these are not completely distinct categories, in that some state-led programs have some full-time students and some programs that are primarily full-time also have some part-time students, this categorization helps frame the analysis.

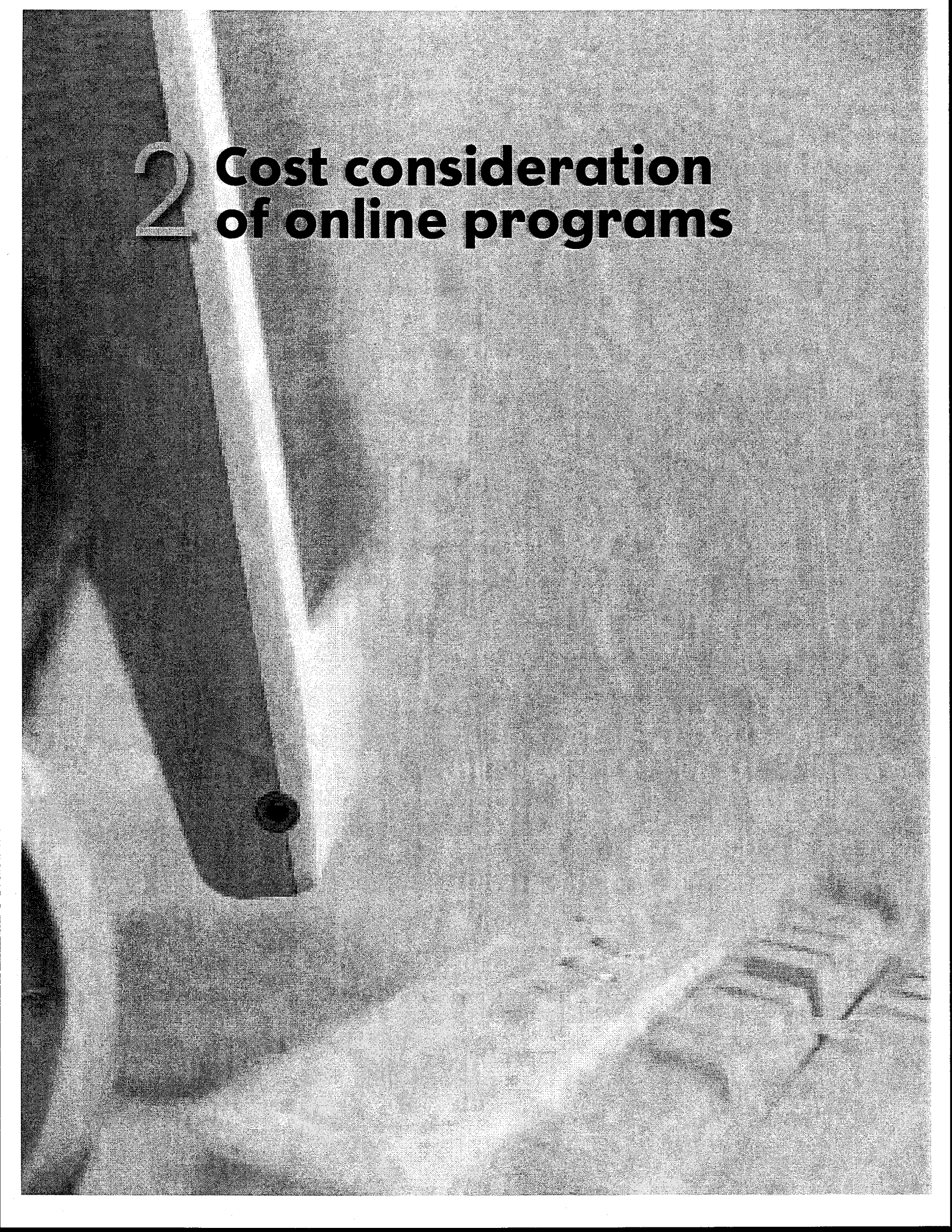
- **State-led supplemental online programs** are usually established by the state to serve students part-time, on a course-by-course basis to enhance students' brick-and-mortar school experiences. The responsibility for granting credit for the course lies with the local school in which the student is enrolled. This local school is also responsible for students' participation in state assessments and is often—but not always—primarily responsible for implementing Individual Education Plans (IEPs) for special needs students. Most state-led programs provide high school courses primarily, although some provide middle school courses as well.
- **Full-time online programs** are often established at the local level to serve students full-time, meaning students take all of their courses through the virtual school and the school is responsible for adhering to all state and federal accountability requirements, such as state assessments mandated by No Child Left Behind and other state tracking. These programs are fully responsible for special needs students' accommoda-

tions. Although often established by a school district or charter school, these programs may operate state-wide or be geographically limited within the state.

Most state-led supplemental programs serve primarily high school students, while most full-time programs currently serve elementary and middle school students. There are significant differences in online teaching based on grade level identified by PJ panel participants, as shown by the following table.

### Resource Needs by Grades in Online Programs

	specific to grade level	all k-12
K-5	<ul style="list-style-type: none"><li>• Textbooks/physical materials</li><li>• Parent support and training ("learning coaches"), also relates to other grade levels, especially important in K-5</li><li>• Teacher aides; they invest in aides to reduce the student teacher ratio</li><li>• Early identification/diagnostic</li><li>• Varied/multiple versions of curricular materials to accommodate different learning needs (since emphasis is on individualized plans)</li><li>• Health diagnostics and assessments</li><li>• Student-teacher ratio smaller than in secondary schools</li><li>• Interaction is primarily student, parent, teacher</li></ul>	<ul style="list-style-type: none"><li>• Professional development</li><li>• Want/need variety of information through the use of surveys, evaluations, real-time data</li><li>• Robust student information system (all the data about the student, their family, their performance); data-driven decision making</li><li>- Nothing exists off the shelf; have to develop and then modify</li><li>• Robust learning management system</li><li>• Student support</li><li>• Large amount of materials that are additional to textbooks</li><li>- Shipping and packaging of materials</li><li>• Internet connections</li><li>• Computers and printers</li><li>• Differentiated instruction</li><li>• Diagnostic learning/personal learning plan</li><li>• Availability of hearing, vision screening</li><li>• Enrollment process and orientation</li><li>• Socialization (field trips, etc.)</li><li>• Cost of administration to comply with state requirements (state, federal, and local compliance)</li><li>• Administration of state assessments is face to face</li><li>• Dual attendance records and other compliance issues</li><li>• Development of an online community</li><li>• Partnerships with other districts</li><li>• Virtual wet science labs</li><li>• High cost special ed</li><li>• Insurance</li><li>• Loss of materials and capital</li></ul>
6-8	<ul style="list-style-type: none"><li>• Higher degree of variability in level of curriculum (2x as much curriculum training for staff at middle level than elementary)</li><li>• Remediation</li><li>• Incentives/resources to maintain women or other populations in science and math (middle school is where one starts to see issues of gender or other equity issues surface)</li><li>• Interaction among students online</li><li>• Cooperation with brick-and-mortar schools to provide special services, extra-curricular opportunities</li><li>• Team of teachers across subjects (teacher communication, collegiality)</li><li>• Home alone issues (teacher support for home alone kids)</li><li>• Extra support/targeted interventions for reading, math, and writing, during transition years</li></ul>	
9-12	<ul style="list-style-type: none"><li>• Higher teacher/student ratio, but additional costs due to highly qualified teacher requirements</li><li>• More classes/more subject area certifications or credentialing</li><li>• Crossover to postsecondary education</li><li>• Students are online 24/7...have to structure resources to accommodate a 24/7 schedule (affects synchronous opportunities)</li><li>• College counseling</li><li>• Adjudication...(at risk/truant)</li><li>• Student activities (band, PE, volleyball, football)</li><li>• Cooperation with high schools for extra-curricular activities</li><li>• ACT, SAT, and other testing</li><li>• Mentoring programs, school-to-work , vocational, community colleges</li></ul>	
13-16	Participants suggested that it would be a good idea to think in terms of a P-16 model for education.	

A black and white photograph of a computer monitor and keyboard. The monitor is on the left, and the keyboard is on the right. The text '2 Cost consideration of online programs' is overlaid on the top left of the image.

## 2 Cost consideration of online programs

## 2. Cost considerations of online programs

Five broad categories of costs exist for online programs:

1. **Management**—includes administrative personnel, travel, supplies, office furniture and equipment, facilities, insurance, legal, postage, marketing, public relations, recruitment, and strategic planning.
2. **Instruction**—includes instructional personnel, professional development, travel, instructional supplies and materials, assessment/test preparation, contracted services, and software licensing.
3. **Course Development**—includes costs associated with developing or purchasing new courses and maintaining or redoing existing courses.
4. **Technology Set Up**—includes computers and office set-ups for all staff members, computers and connectivity for students, the Learning Management and Student Information Systems, and networking hardware, software, and connectivity.
5. **Technology Personnel**—includes all non-management personnel dedicated to technology, software licenses for all non-instructional staff, and contracted services.

### Major cost variables

The cost of operating online programs vary based on numerous factors. Some of these apply primarily to one type of program, while others apply equally to both types. Key variables include:

- **Program governance:** Where the program is housed and how it is governed affects cost. State-led programs can be housed within the state education agency and district programs within the district office either physically, administratively, or both. This can reduce duplication of resources and expense across the state, and allow the online program to take advantage of agency offices and services, such as general counsel, public relations, and office space, often at reduced or no cost to the program.
- **Teacher salaries:** Salaries make up a large percentage of overall program costs; therefore, relatively small changes in salary levels can have large impacts on total costs.
- **Student-teacher ratio:** Because instruction costs are a large percentage of total costs, the student-teacher ratio is a key driver of overall costs—the more teachers you employ per student the larger your budget.
- **Student population:** Costs change significantly as the percentage of students needing special services increases. A school serving a higher percentage of special education, English as a Second Language, or at-risk students is going to cost more per pupil than one that serves fewer students that require such services.
- **Degree of at-home vs. on-site computing:** Costs vary based on whether the students are taking courses within a brick-and-mortar classroom, at home, or from some other location, because additional staff members are needed to support students taking a course at a physical

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school. Whether to offer courses at a physical location such as the local school is a key consideration for equity of access in many states where many students do not have Internet access at home. However, in increasing access you also increase costs.

- **Course completion rates:** Course completion rates vary by program, and many programs have a non-completion rate of 25% or more. A per-student funding model based on the number of course completions must take into account the cost of support and instruction to students who do not complete their courses.
- **Quality assurance, research and development:** Programs have different types and levels of quality assurance, research into effective online pedagogy, and development of course content and other resources. All of these can be costly factors for a program that chooses to put significant resources into them.
- **Program size and economies of scale:** As virtual schools increase enrollment, the percentage of total expenditures spent on instruction and technology equipment increases while the percentage of total expenditures in other areas decreases (management, technology personnel, curriculum development and maintenance). Economies of scale are not as significant as one might imagine, however, because such a large percentage of overall costs are tied to instruction, and per-pupil instruction costs remain constant. Large programs that have achieved some economies of scale can choose to invest in further research, new courses, and technology that benefit students and online education as a whole.
- **Program growth:** A growing program will tend to have higher costs than a non-growing program, if other variables are constant. This is because growing programs will typically be investing in new courses, new technologies, teacher recruitment, professional development, and other costs.

## **Cost estimate for online programs**

Costs fall into two categories, start-up costs and ongoing costs. Results from the PJ panels suggest that a new state-led supplemental program, designed to serve approximately 500 students full time equivalents, or provide 3,000 units of instruction in year one, will require about \$1.6 million to adequately fund start-up activities before providing instruction. This first year is used by the program to develop its educational program and infrastructure, and nearly 80% of start-up costs are in management and course development.

Post-startup operating costs are heavily dependent on the variables discussed above. The most significant variation in costs depend on where students take online courses (from home or school) and the characteristics of the students served (number of special needs students and the level of responsibility the school has for serving such students). As such, weighted funding to accommodate these variances is an area that should be considered by policymakers and is discussed in further detail in the section that follows on funding.

PJ panelists helped APA think through the resources required to adequately serve regular and special needs students. The cost for serving regular edu-

cation students could be viewed as a base cost (which again would vary based on the specific characteristics of a state). The estimated base cost for serving students with no special needs range from about \$7500 per FTE for a state-led, supplemental online program that has high levels of quality assurance and instruction and is growing, down to as low as about \$3650 per FTE for a program that is large, not growing, and not investing in significant professional development for teachers and similar quality measures. Funding at the lowest level would allow a program to operate day-to-day but would not allow the program to invest in research, development, innovation, quality assurance, and planning for growth.

For a full-time program, results from the panel suggest that costs range from about \$7200 to about \$8300 per FTE, again dependent on the variables discussed above. Full-time programs can be more expensive than those serving students on a supplemental basis because these schools are typically responsible for special needs students and for adhering to state and federal accountability requirements (including granting credits, testing students, making AYP, etc.). In addition, local virtual schools are more likely than state virtual schools to provide computers and Internet connectivity for their students, which can result in higher costs per pupil.

#### **Comparing costs between virtual and brick-and-mortar schools**

Results from the PJ panels suggest that the operating costs of online programs are about the same as the costs of operating brick-and-mortar schools. It is important to note, however, that APA did not look at costs related to building facilities or transportation in this study. Such costs are worthy of future study because, if they were factored in, the benefit/cost ratio of virtual schools would likely increase and the costs per pupil, as compared to brick-and-mortar schools, would likely be lower since virtual schools spend little, if anything, on transportation and capital.

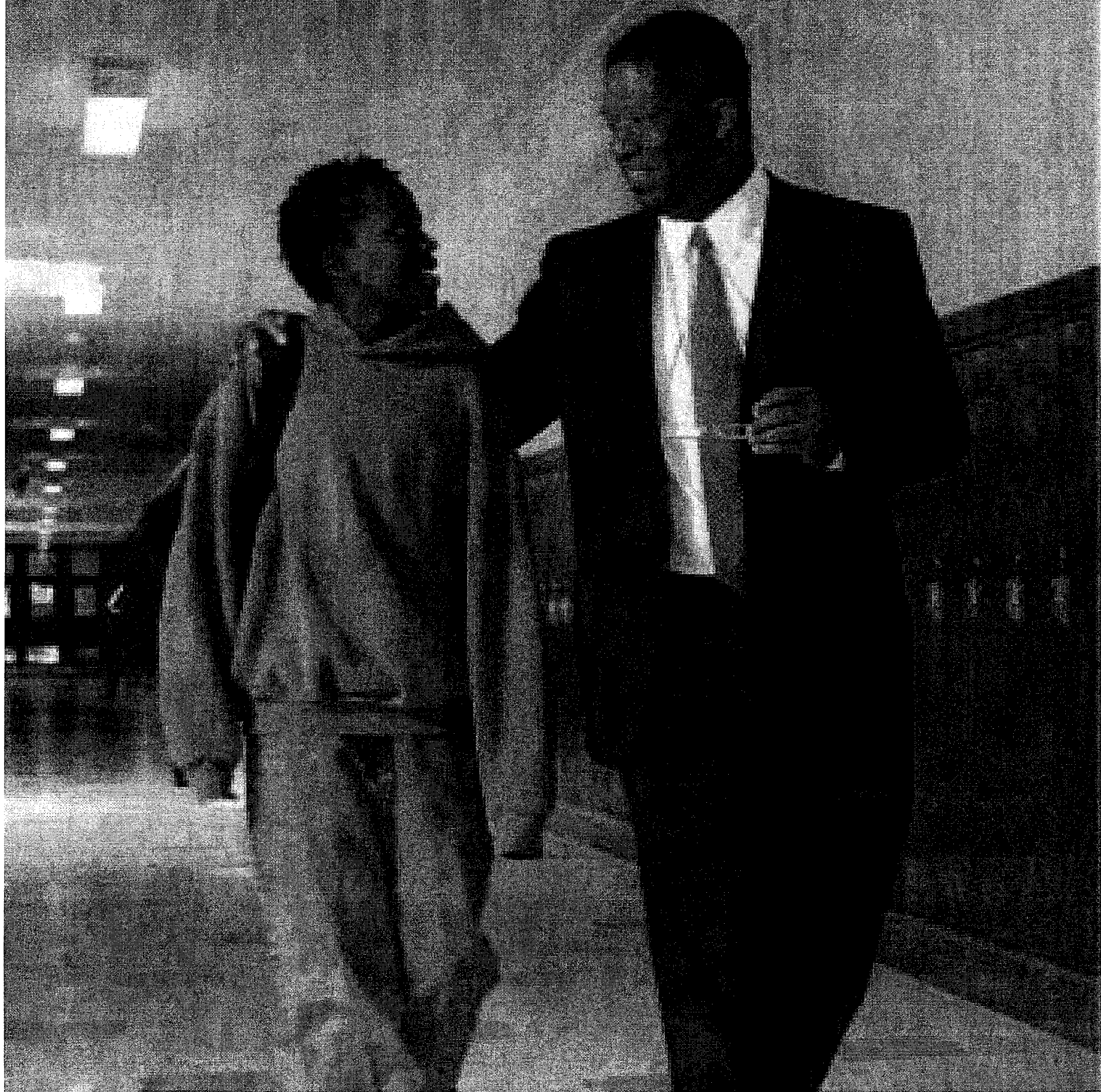
#### **Total expenditures (without capital) per student in brick-and-mortar schools**

State	Expenditures per Pupil <sup>3</sup>
AZ	5851
CO	6941
FL	6213
ID	6011
NH	7935
SC	7017
TX	6771
VT	9806
<b>National Average</b>	<b>7727</b>

<sup>3</sup>State and national data include current expenditures only (does not include capital) for the 2001-02 school year (source: National Center for Education Statistics, [www.nces.ed.gov](http://www.nces.ed.gov))

3

## Funding and policy analysis



### 3. Funding and policy analysis

This section discusses how public schools are funded in this country, how virtual schools are funded, how the funding of virtual schools compares to that of brick-and-mortar schools, and the policy issues raised when examining virtual school funding options.

#### Funding brick-and-mortar schools

In nearly all instances, states and local school districts share the major cost of public education in this country. A recent report from the Tax Policy Center finds that more than half of the dollars going into public education are being supplied by states (56% national average) with the bulk of the remainder being supplied by school districts. The federal government contributes an average of 8%<sup>4</sup>.

States in the Eastern United States are more likely to contribute a larger percentage of aid to schools than states in other parts of the country. This is primarily due to the level of taxing authority granted to school districts in that region of the country. Independent school districts are less common in the East. Such districts typically have full taxing authority and thus have the ability to raise more local dollars. School districts in the East are more dependent on other entities to raise taxes on their behalf (e.g., municipalities or county governments). For schools that operate outside of a district entity (e.g., state authorized schools like a state-led virtual school), the state becomes responsible for fully funding the operations of that school and typically, the school does not have access to local tax funding to support costs related to general operations or capital expenditures.

Funding formulas, established by state law, dictate the amount of funding that will flow from the state to local school districts. Typically, these formulas are driven by four factors:

1. **Student Counts**—the number of students attending schools within the district;
2. **Student Need**—characteristics of students served (e.g., number of students that qualify for free and reduced priced lunch, special education, and English Language Learners);
3. **Wealth**—property tax base (the state provides less aid to districts that can raise more resources locally); and
4. **Effort**—state incentives might be provided to a district to raise more in taxes and if it does, it is rewarded with more state aid.

In addition to the above factors, formulas can be subdivided to recognize differences in need across districts, for example, in such areas as capital or transportation.

Rather than basing funding decisions on what is needed for schools to achieve a desired performance goal, the total level of funding that a state provides for public education is most often based on the level of available resources or on how much the state spent in previous years. However, this

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<sup>4</sup>Education Spending and Changing Revenue Sources, Urban Institute, 2006. Report available at <http://www.urban.org/publications/1000942.html>

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trend is changing as policymakers shift strategies to focus more on achieving education funding "adequacy." Such funding adequacy is determined based on the level and types of resources required in order for students to meet state and federal academic standards. Research-based adequacy studies attempt to weave together the school finance reforms of prior years, which were dedicated to ensuring equity and efficiency in education, with those of a standards-based era where student testing and performance outcomes are now increasingly important and more visible each year.

## **Funding virtual schools**

States have five primary options for funding virtual schools:

- (1) State appropriation.
- (2) Funding formula.
- (3) Course fees.
- (4) No state role.
- (5) A combination approach.

## **State appropriation**

State appropriations are a common way for states to fund state-led online programs. The funding either flows directly from the state to the school or through another channel, such as the state department of education.

Typically, the level of funding appropriated is based more on what resources a state has available and less on what the actual costs are of running a state virtual school effectively. Basing funding on the level of resources available in a given year renders schools more vulnerable to the ebbs and flows of the political climate and makes it more difficult to appropriately budget and plan for the future. On the other hand, proponents of the appropriation model argue that it is the best approach to use in the early years of implementation because it enables the school to have a solid base of support as it grows and it keeps the school under control of the state – both economically and in other ways (e.g., the number of students that can be served) – as it proves itself to the state and the community-at-large.

After an online program has established operations for a few years and gained acceptance among educators, the state may consider shifting funding for a virtual school to a per-pupil funding formula. This is the approach that Florida has taken with the Florida Virtual School.

This type of funding model is more appropriate for state-led online programs than local virtual schools because a state generally has only one state virtual school whereas it might have numerous locally run virtual schools. For locally-based virtual schools, state support could best be provided in a couple of ways:

1. Develop a start-up grant program to provide some planning money to help local virtual schools get off the ground.

2. Give local school districts the authority to tax their constituents to support the creation and growth of virtual schools (in the same way that districts can use such taxes to support their facility needs).
3. Allow local districts that are starting online programs to fund digital curriculum and materials development with state funds that may be currently restricted for textbook, curriculum and materials.

### ***Funding formula***

A funding formula provides money to a virtual school on a per pupil basis, typically according to the number of courses or units of instruction taken. In some situations, funds might be allocated according to the number of students enrolled in a virtual school. In other cases, funds might not be sent to the school until students actually complete (or even successfully) complete their courses.

The funding formula model for virtual schools most closely resembles how brick-and-mortar public schools are funded in that it is based on per pupil counts. A key difference with this model in the funding of virtual schools is it tends to be based on successful course completion. This is very different than brick-and-mortar public schools which are funded based on average daily attendance or enrollment with no aspect of funding tied to successful outcomes. This is an interesting new approach that may have significant implications when considering quality of both brick-and-mortar and virtual schools – moving to outcomes and quality-based funding models centered on successful completion.

How a funding formula for online programs might be different than for brick-and-mortar schools requires further study. Some options include:

Adjustments based on the type of students served: Students requiring special education, English language instruction, and at-risk supports are more expensive to serve, on average, than students who do not require such services. Many states are recognizing the need to weight their funding formulas based on the characteristics of the students served. A funding formula for virtual schools should also consider such weights.

Adjustment based on technology costs: Virtual schools that provide a computer and Internet connectivity for all of their students have higher technology costs than online programs where the student (or brick-and-mortar school) is responsible for providing the technology necessary to access their online courses. As such, if a state supports the idea of increasing access to online programs, especially for students who do not have computers in their homes, it will want to consider funding programs that provide connectivity and computers for low income students at higher levels per pupil than those that do not provide such services.

Adjustments for size: The cost per pupil in online programs can drop as a school grows, due to economies of scale, although not as much as one might expect because such a large proportion of costs is tied to instruction. However, the problem with adjusting the formula (and giving larger schools less revenue per pupil) is that it can provide a disincentive for virtual schools to grow or to invest in ongoing research and development. To avoid this

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problem, policymakers will want to ensure that school funding formula adjustments based on virtual school size are carefully tailored to recognize the benefits of economies of scale without penalizing those virtual schools that thrive and grow.

A formula-based approach to funding virtual schools, as with all public schools, appears to make the most sense. Determining the proper way in which funding can follow a student from the brick-and-mortar school to the virtual school is tricky and often controversial (as it means taking money away from one entity and giving it to another). Minnesota's approach to counting students and distributing funding based on where the student is at any given time can be cumbersome but prevents the potential problem of double-funding students. For states that divide their funding into course-level units (typically 1/6) this approach is easier to implement; for states that fund students based on a half or whole FTEs dividing by course presents a challenge to the existing accounting system.

## **Course fees**

Another funding option for state-led programs is charging course fees from school districts registering students in online courses. Many state-led programs charge course fees that range from \$50 per semester course to several hundred dollars per semester course. These fees usually do not cover the operating or marginal cost of delivering the course, and in all cases do not cover program operating costs such as professional development for teachers, administration, and similar. Therefore course fees sometimes provide revenue to a state-led program that is in addition to, but never instead of, a state appropriation or other funding source.

## **No state role**

While likely to be the least popular option among proponents of virtual schools, another route that a state can take is to play no role in supporting such schools financially. A state may permit the formation of virtual schools but rely on local school districts or private individuals or institutions to foot the bill. In this type of a model, a virtual school would bill local school districts or families for the tuition costs for students that take courses at their school in order to cover the entire cost of its operations.

A few problems exist with this approach. First, it provides no public support or funding for start-up, which is a significant expense. Second, timing can be an issue. When a state virtual school is relying on reimbursements, it can affect cash flow, and at least initially, make it difficult for the school to operate effectively and remain afloat. Third, this type of system will likely lead to inequalities in terms of who has access to virtual courses. As more affluent school districts develop their own virtual schools, more schools rely on families to provide their own computers and Internet connectivity. In an environment where states play little or no role in supporting quality online programs, the potential for a large equity gap increases.

"No state role" is not likely an approach that many states will take, especially if they believe in providing online learning options. A state could provide incentives to participate in virtual schools by providing some funding to districts that purchase services and courses for their students from virtual schools.

## **Combination approach**

States may want to consider a combination of some of the above approaches to funding and supporting virtual schools. For example, a state may provide an appropriation for start-up for a state virtual school, planning grants for local virtual schools, and then move to a formula-based system to fund the ongoing operations of these schools. Additionally, the state may elect to provide some financial incentives to spur the use of the virtual school(s) within and among school districts and communities across the state or to allow local districts to raise taxes to support virtual schools in their communities. Such an approach allows people to access the system via multiple channels (e.g., more than one type of virtual school) and encourages a local investment in virtual schools instead of relying primarily on state dollars.

With any of the above approaches, a state could choose to create additional incentives for virtual schools. For example, additional state aid could flow to schools that are successful at raising a certain level of resources from local-based sources. Or, states could provide weighted funding to districts that choose to send students to the state virtual school to take selected courses.

## **Funding virtual schools: Case studies from two states**

Descriptions of how two states, Florida and Minnesota, fund their virtual schools are illustrative. Florida Virtual School started with an appropriation and now receives funding based on a per pupil allocation. Minnesota virtual schools are funded on a per pupil basis based on daily student counts, in the same way as all public schools in Minnesota.

### **A combined approach: The case of Florida**

Florida established a state-led virtual school with the intended purpose of offering online courses to Florida students, including home-schooled students and students in school districts where such courses are either not available or a student prefers to learn in an online environment. From the outset, state policy leaders viewed the Florida Virtual School as a vehicle for expanding access to alternative approaches to learning across the state. In Florida, the state played a key role in establishing and investing in the school.

The Florida Virtual School was funded by state appropriations during its six year start-up and early operations phase (1997 through 2003). In 2003, Florida began funding the virtual school through a formula of per pupil funding. Now established as a separate school district, the Florida Virtual School receives per-pupil funding based on enrollment and successful course completion. Another factor contributing to the success of the Florida approach is the legislation that established public school choice and listed Florida Virtual School as an option.

The Florida approach is generating interest among other state leaders seeking to improve funding mechanisms for online education. According to one panelist, Florida's centralized approach is viewed as "the most logical approach to deal with funding state virtual schooling." He added, "Are all

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[Florida] school districts pleased? No. But overall, people have accepted it as a viable way of meeting student needs that can't otherwise be met."

Participants acknowledged that supporting an initial start-up phase through a state appropriation may be a necessary step before states are ready to move to a per pupil formula-based model. This phased-in process allows a state time to develop and establish a quality program and determine the finance approach that best fits within its overall state policy framework.

The state virtual school is the only virtual school entity in Florida that received a significant state appropriation and was granted the authority to operate independent from a school district. However, the state does permit other types of virtual schools to operate as district or charter-run virtual schools.

## **Student-based, market-driven model:**

### **The case of Minnesota**

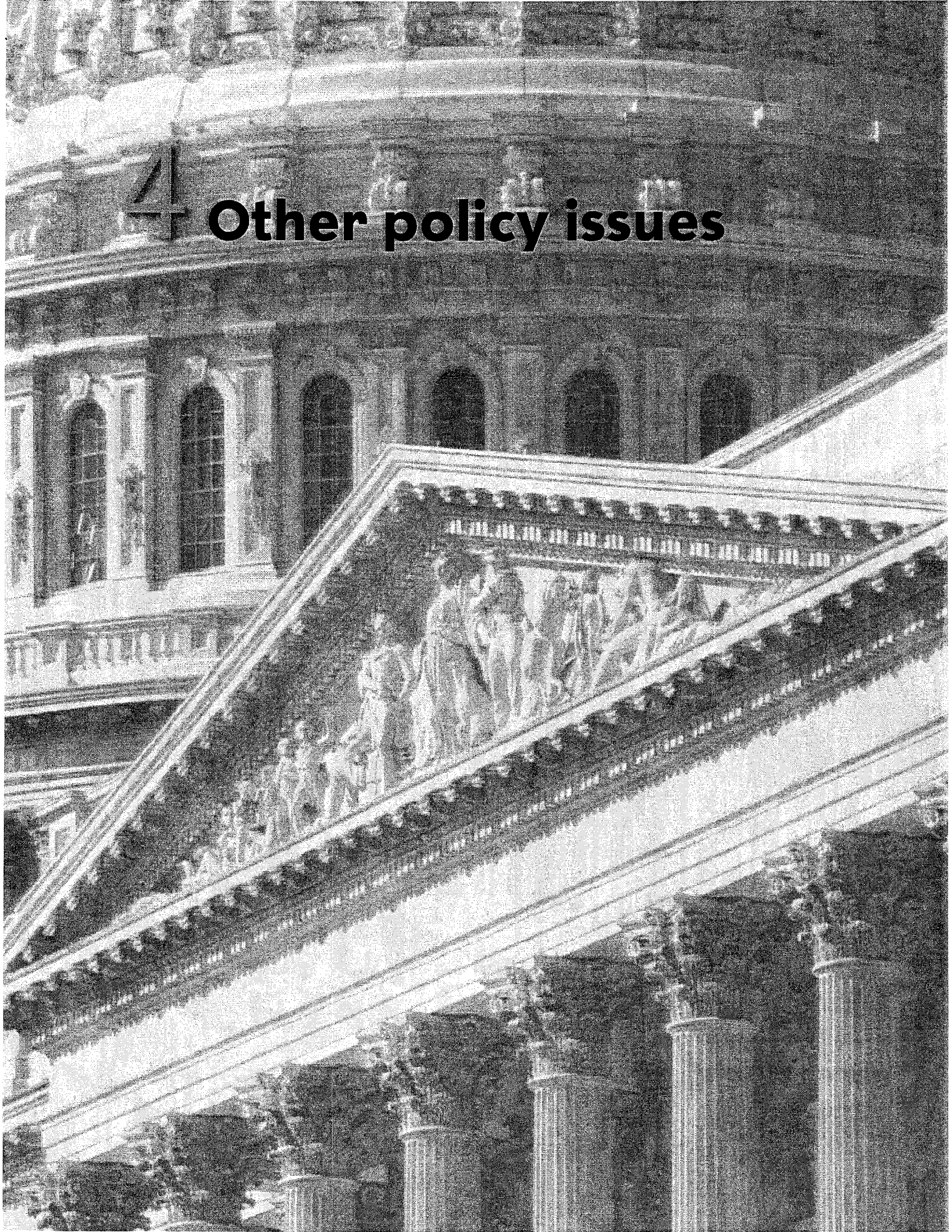
Minnesota is unusual in its approach to funding schools. The state makes no distinction between virtual, charter, and traditional schools in its approach to school finance. In Minnesota, dollars are allocated on a per-pupil basis to wherever students are counted, regardless of the type of educational delivery system used. Funding is provided based on the course. Thus, every child is counted every day in this state and the school day is divided into 6 increments ( $1/12$  FTE = 1 course per semester). If a student is enrolled in a virtual school, the school would receive the full per-pupil allocation for the course. If a student takes only one online course per semester, the virtual school would receive  $1/12$  of the per-pupil allocation. If a student takes a virtual course for a full year, the allocation is  $1/6$  FTE. The finance system at the state is developed to handle per pupil allocations from any source for courses. In Minnesota, online learning via virtual schools "is just another delivery option" and not differentiated between the brick-and-mortar course and online course.

This approach adheres to Minnesota's commitment to having funding follow the student within an environment of open enrollment and many different school choice options. This grew out of the state's long history with school choice and charter schools and affirms the notion that school finance is integrally connected with governance. According to the panelist from this state, "Our choice was, let's try to integrate this as much as possible, rather than creating a separate infrastructure which then becomes self-perpetuating."

The state plays no central role in directly developing or coordinating the availability of virtual school programs. It relies solely on the impetus of public, local or private providers, in a market-driven manner. The state does, however, certify online courses in order to ensure that they meet state standards and contribute to a student's grade progression. Another quality control used by Minnesota (and also Florida) is to only fund virtual schools when students successfully complete the course.



# Other policy issues



#### 4. Other policy issues

Figuring out how to fund virtual schools is a big issue for policymakers but not the only one that they face regarding virtual schools. Other policy issues that states may grapple with related to virtual schools include:

- Educating state policy makers about the benefits, costs, opportunities, and limits of online education. Those engaged in virtual schools are often frustrated with state policymakers' lack of knowledge and understanding of online learning. The tendency to over-simplify issues associated with virtual schooling and apply policies meant for the brick-and-mortar school world undermines the potential of online education to expand opportunities for students and might hamper the development of high quality programs.
- Counting students. State policies often emphasize seat-time or hours spent on instruction or other pacing methods (e.g., semester blocks, etc.), or attendance laws. All of these concepts of time in instruction do not directly apply to virtual schools and may need to be revised to better accommodate such programs. For example, should attendance laws defining a school year as 180 days of instruction apply to instruction in virtual school programs where the teachers work over 200 days per year on average? The idea of emphasizing competency vs. seat-time is an important ideological shift in support of student learning.
- Quality and accountability. Among virtual school proponents there is grave concern about quality of sub-par programs. A few bad online programs in any state can harm all virtual schools from bad publicity due to failure to serve students with quality teaching and courses. To prevent this from occurring, it is critical that any state engaged in virtual schooling ensures that clear quality and accountability measures exist for virtual schools and that clear processes are in place for closing a school that is academically unsuccessful. The National Education Technology Plan recommends that states, districts and schools develop quality measures and accreditation standards for e-learning that mirror those required for traditional course credit.
- Recognition of costs for management and oversight. To most effectively oversee a virtual school, a state or school district needs to allocate appropriate personnel to this task—ideally personnel that do not have other conflicting or numerous responsibilities in addition to oversight of the virtual school(s) in their jurisdiction.

Many states are already addressing these and other policy issues. Examples of variations in policy and practice of online learning that were raised in the PJ panels include:

- Georgia allows local school districts to determine the extent to which individual computer access vs. on-site computing is provided. The state-run virtual school encourages online learning to take place in the home.
- Louisiana requires that on-site access to a brick-and-mortar setting be provided in order to ensure that all students have equal access to online education. With over 50% of Louisiana families not having any kind of online access at home, the state assumes a responsibility to ensure that

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students have some way of getting on the Internet and taking advantage of the online offerings. The vast majority of online learners in Louisiana (80%) participate through a centralized brick-and-mortar location. About 20% of students access online learning from their homes. This need for an on-site facilitator adds to the cost of delivering online courses.

- In Florida the vast majority of online learners access the courses through their homes (80%) while about 20% attend on-site locations.

# 5 **Summary and next steps**



## 5. Summary and next steps

A common argument heard from policymakers and others is that virtual schools are less expensive than regular public schools, and as such, should be funded differently. Based on the data it appears that the costs of operating a virtual school are about the same as those of a regular brick-and-mortar school. The main benefits provided by virtual schools are that they increase access to quality courses and educational opportunities, making it possible for all students to receive high quality courses of instruction better personalized to their needs. This increased access to rigorous courses is an important component in addressing educational reform for education policy makers.

The data collected for this project are not necessarily applicable to all states and districts nationwide. Given these variations, a logical next step would be to work with individual states and/or school districts to develop more accurate costs estimates and then to tie these estimates to state funding mechanisms in order to develop the most effective manner for funding virtual schools by state. Such an endeavor would involve addressing the specific details of funding and accountability in each state or district and would allow each state to delve deeper into the issue of funding virtual schools and make comparisons that extend beyond those presented within this paper.

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## **APPENDIX A: Bellsouth Virtual School Meetings Participant List**

### **Professional Judgment Panel #1: State-led supplemental online programs**

Larry Banks, Florida Virtual School  
David Bass, Florida Virtual School  
Kristie Clements, Georgia Virtual School  
Hall Morisson, Louisiana Virtual School  
Janet Broussard, Louisiana Virtual School  
Kim Mulkey, Bellsouth Foundation  
John Brim, North Carolina Dept. of Public Instruction

### **Professional Judgment Panel #2: Full-time online programs**

Kris Enright, Branson School Online  
Judith Stokes, Branson School Online  
Nadine McHugh, CO Virtual Academy  
Mickey Revenaugh, Connections Academy  
JoAnne Hilton-Gabeler, Denver Connections Academy  
Michele Moskos, TX Tech University  
Rafael Granados, University of CA College Prep Online  
Alan McFadden, Monte Vista School District

### **Policy Meeting on Funding Virtual Schools**

Tim Snyder, Colorado Online Learning  
Kim Mulkey, Bellsouth Foundation  
Heather Grinager, National Conference of State Legislatures  
Eric Nauman, MN Senate Staff  
Terry Whitney, CO Legislative Staff  
Susan Patrick, North American Council for Online Learning  
John Watson, Evergreen Consulting  
Mike Friend, ID Association of School Administrators  
Bill Thomas, Southern Regional Education Board (SREB)  
Greg Vanourek, Vanourek Consulting Solutions  
Kate Loughrey, TX Department of Education

## APPENDIX B: Data Collection Professional Judgment Panels

### Description of the Professional Judgment Approach

The professional judgment (PJ) approach is one of the methodologies developed in the past 15 years to estimate the costs that schools and school districts face in order to meet state requirements or performance expectations associated with statewide education accountability systems. The approach is particularly well suited to situations in which costs need to be measured and (a) little or no information is available about prior costs or (b) prior spending reflects available revenue more than best education practice. The PJ approach assumes that experienced educators can specify the resources hypothetical schools need so as to incorporate the best available education strategies and practices and/or to meet state standards. By "hypothetical," APA means that panelists do not examine an actual school in a state or district. Instead, they are asked to identify the resources that a prototype school having "average" characteristics would need to meet a specific set of performance expectations (such as grade span, average enrollment and average numbers of students with special needs based on data collected by APA via the 9 state survey). The cost of the identified resources can then be determined based on a set of prices – including average salaries and benefits – specific to those resources.

In the case of this study, APA developed a set of standards for panelists to use in targeting their virtual school resource recommendations (these standards are discussed in greater detail in the section below on "Professional Judgment Panel Procedures"). APA also examined whether virtual school costs should vary by such factors as school district configuration (based on the grades the schools serve) and school district size. Professional judgment panels were also asked to separately estimate the resources needed to serve students with special needs. Students with special needs include:

- Those in special education programs (for which students require individual education plans [IEPs]);
- Those with language difficulties (who we refer to as English language learners [ELL students]);
- Those who are at risk of failing in school (the count for which we estimate based on a proxy measure – which is eligibility for free or reduced-price lunch – rather than on a direct measure of student performance).

The additional cost of serving students with such special needs can be expressed through student "weights" relative to the base cost.

To address the potential added cost of students with special needs in hypothetical schools, APA similarly looked at the average characteristics in existing schools (based on survey data collected previously) and developed average enrollment levels of students with special needs (e.g., special education, limited English proficient, and at-risk).

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<sup>a</sup>Pupil weights are factors used to express the added cost of serving students with special needs. Every student, regardless of special needs, is counted as 1.00 student. In order to determine the base cost of a district, the number of students enrolled in the district is multiplied by 1.00 and that product is then multiplied by the base cost figure. If the added cost of serving a student with a special need were determined to be 60 percent of the base cost, then the weight applied to such a student would be .60 (for a total weight of 1.60). Additional weighting might be applied to all students in a district to account for certain district characteristics (such as size) that can impact per student costs.

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## **Professional Judgment Panel Design**

Two professional judgment panels were convened in Denver. Each panel had 8 participants, including a combination of school leaders (e.g., principals, assistant principals), personnel who provide services to students with special needs, and school business officials (e.g., finance, technology directors). The first panel was convened in late February 2006 and included representatives from state virtual schools from the Southeastern United States. The second panel was convened in late-March and included representatives from charter, university, and district-based virtual schools located in Colorado, Texas, and California.

Each panel built model virtual schools using the hypothetical data that were designed to accomplish a specific set of performance objectives and standards (which are described in the next section on "Professional Judgment Panel Procedures"). In the state virtual school panel, the schools that were built served high school students exclusively; in the second panel, the schools served students of all ages, K-12.

Schools that participated in the initial survey were recruited for the professional judgment panels. Specific panel members were identified via the survey with additional assistance from the Bellsouth Foundation and through APA's participation in various meetings on virtual schools organized by the Southern Regional Education Board.

## **Professional Judgment Panel Procedures**

The panels followed a specific procedure in doing their work. APA staff reviewed background materials and provided instructions. Panelists were instructed that their task was to identify what constitutes an "adequate" level of resources for hypothetical virtual schools. To accomplish this task, it was therefore necessary for panelists to have a set of performance standards in which to anchor their recommendations of the resources required.

For the first panel (state virtual schools), APA developed a discussion guide to help focus the work of the panel on certain criteria that recent literature on virtual schools deems important to the ultimate success of these types of schools. For the second panel (non-state virtual schools), APA used a document that it developed on the State of Colorado's and the Federal NCLB's academic standards and accountability requirements. This document provided a means of using a specific set of standards to guide the outcomes of the group's work. Given that a majority of participants in the second panel were from Colorado, APA chose to use standards from this state. All panelists received the document in advance of the meeting and had reviewed it prior to their participation in the PJ.

APA could not use the same documents for both meetings because these two types of schools have different levels of responsibility for the students they serve. State virtual schools are not required to meet most requirements of the No Child Left Behind Act (e.g., Adequate Yearly Progress), they do not test their students using state assessments, and they are not responsible for special needs students in the same way as other schools (e.g., managing IEPs, providing accommodations). Instead, the brick-and-mortar schools

where the students are enrolled full-time are responsible for these things—not the state virtual school. Conversely, most non-state-virtual schools (e.g., charter schools, university or district-based schools) are responsible for all of these areas because the students are enrolled full-time. Such schools therefore are fully responsible for adhering to state and federal rules, regulations, and performance standards.

It is important to note that capital, transportation, food services, adult education, and community services were excluded from consideration. For a variety of reasons, these elements pose data gathering difficulties and are generally too cost-specific to the characteristics of an individual state or district to be usefully included in a professional judgment analysis. Additionally, these costs tend to be less of an issue for virtual schools as compared to other types of schools. However, the costs of furniture and equipment, expected to last 3-5 years and not considered to be either an annual cost or a capital cost (depending on the accounting rules of specific states), were included and amortized over four years.

Once the panels completed their work, APA was able to calculate the costs and develop the model virtual schools based on these costs. Given that this work was not being done for a particular state, APA opted to use an average teacher salary, based on national data from the National Center for Education Statistics, to calculate personnel costs. For example, if the average teacher makes \$40,000 (without benefits), we asked the group how many times the average teacher salary a principal would earn. If the group determined that the ratio was 2:1, then the principal salary we calculated was \$80,000 ( $2 \times \$40,000$ ). Other costs (such as those for technology, materials, professional development, etc.) were provided by the group and based on what panelists presently spend for such resources in their schools (scaled to whatever level the group suggested was needed in order to meet the needs of the hypothetical schools).

## Policy Meeting

Disconnects between policy and practice emerged as we probed deeper into our research on virtual schools. Policymakers were often unclear about what was really happening in virtual school settings and virtual school operators were often frustrated by policies enacted that posed barriers to their being able to operate their programs in the manner in which they felt was most effective. When it came to funding virtual schools and understanding what resources were required to run such schools effectively, the lack of information available to policymakers became apparent. As such, APA decided to convene a policy meeting focused on the topic of funding virtual schools. The meeting was held in Denver on March 21, 2006. A variety of states were represented and participants included legislative staff members, policy analysts, and representatives from selected public and private institutions engaged in virtual school activities. Findings are presented in Appendix C and in the body of this report.

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## APPENDIX C: The Landscape of State Policy Issues for Virtual Schools

The landscape of virtual school options available to K-12 students in the United States is highly complex, varied, and expanding. So, too, is the landscape of state policy issues surrounding the field and practice of virtual schools. Amidst this challenging context, the promise of virtual schools to both address issues of educational access and improve the effective delivery of instruction and other innovations for education can be felt. As the range of virtual school options proliferates through the entrepreneurial actions of many different entities—both public and private—state leaders must confront an increasingly complex set of policy questions if this promise is ever to be realized.

On March 21, 2006, the educational consulting firm of Augenblick, Palaich, and Associates, Inc. convened a group of state policy analysis and leaders, virtual schools specialists, and others to outline some of the most poignant policy issues facing states with regard to funding and governing virtual schools opportunities for students.

Participants were asked to share the key policy issues concerning the funding of virtual schools that they were seeing in each of their states. The discussion revealed several issues that are unique to individual states as well as some that are common across all states.

Factors that contribute to the variability of policy issues across states included:

- The philosophical, political, and governance contexts for education in each state
- The degree of responsibility for providing online education to its students assumed by the state
- The history, evolution, and landscape of online education providers available in each state
- The type of school finance policies used in each state, and
- Various design factors used in online schools.
- Policy issues that all states had in common included:
  - The need to identify the true cost of quality online education
  - The need to educate state policy makers about the benefits, costs, opportunities, and limits of online education
  - The rapid growth of demand for online education
  - The struggle to ensure equitable access to the benefits of online education to all students as growth takes place
  - The need to clarify or revise state policy frameworks for accountability and other matters to better fit the virtual schools world, and
  - A concern for protecting the potential for innovation inherent in online education while operating within an environment of scarce resources.

## State Funding for Online Education

States fund online education in three different ways: 1) through an annual state appropriation; 2) as an integral part of the state's school finance formula or through an FTE system; and 3) through tuition and fees charged to local school districts or others. The reasons for each approach chosen by a particular state is linked with the state's overall philosophy of education, governance context, structure of its school finance system, view of the role online education plays as part of the overall education system, and other factors.

### Funding Online Education through Annual State Appropriation

In many cases, funding is secured through a state appropriation. This was true of Idaho, Texas, and several of the SREB states. According to SREB, ten of the 16 states that provide some form of online education support them through an annual allotment of state dollars. Key policy issues faced by states supporting online education through a state appropriation include:

- **Adequacy of Funding for Start-Up, Planning & Early Development Costs.** States making an annual appropriation to support online education need to recognize the additional costs needed to establish an online school that offers a range of high quality courses. Participants all acknowledged the importance of this early investment being made at a significant level in order to ensure the quality of the overall program. Including adequate time and resources to support a quality planning process that maintains some level of consistency and can adequately meet the rising demand for online education is also important.
- **Timing of the State Appropriation.** Some states like Idaho have experienced challenges receiving the state's appropriation in time to establish a quality online program that follows the traditional school calendar. In cases where state leaders have limited background knowledge about online education, they may misunderstand the complexities involved in setting up an online learning program. There is a tendency for legislators to over-simplify the planning, staffing, operations, capacity needs, and amount of time required for quality programming. As one participant put it, "When you get an appropriation in July and don't know what your student count is, it's difficult to plan. It's getting the faculty lined up, operational issues, and so on." This can also create challenges in retaining highly qualified teaching staff who, due to the uncertainty of consistent funding available, may need to seek other jobs during the interim phases.
- **Vulnerability to State Budget Cuts due to Fluctuations in the Economy.** States that use an annual allotment or appropriation to fund online schools are vulnerable to fluctuations in the economic health of the state. Online schools funded this way risk having severe budget cuts during an economic downturn creating an unstable foundation to develop new programs, especially as the popularity of online learning increases.
- **Connections to Other Aspects of Education Technology.** One of the states (Texas) combined support (and oversight) of online education with other aspects of education technology housed in the state education agency.

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- **Basing Funding Level on Prior Year's Program.** Online education is experiencing growth each year. When states opt to base an annual allocation on the amount spent in the prior year, it creates challenges for online programs that experience an increase in student demand from year to year.

## Funding online education as an integral part of school finance

In others states like Florida, Colorado, and Minnesota, funding for online education is integrated within the state's school finance system. Doing this requires state policy makers to consider and make key decisions on various factors such as: a) How a state counts the number of students attending a public school; b) What it costs to provide an adequate and equitable education; and c) Who pays for what. The methods used to account for these factors varied greatly among the states using the integrated approach.

## Key policy issues within given states

In general, key policy issues faced by states supporting online education as an integral part of its school finance formula, include:

- **Governance Model for Online Education.** All participants acknowledged that it was difficult to separate the funding of online education from the governance model prevalent within a state. This is especially true in states that build funding for online education into their school finance structure.
- **Method of Counting Students.** States use different methods of counting students with some counting students once or a few times per year (Colorado once per year, Florida four times per year), and others counting them every day (Minnesota). As the reality of student mobility from one choice option to another grows, states may wish to revisit their methods of counting students in order to gain a more accurate picture of actual enrollment in online versus traditional bricks and mortar schools.
- **Finance Caps on Home-School Students.** The issue of whether or not to place restrictions on formerly home-schooled students wishing to take online courses was an issue in several states. Some of the states require such students to have been enrolled in a traditional public school district for at least one year prior to their enrollment in an online program (in order to receive funding).
- **How State Apportions FTE Funding.** Differences in the ways states determine and allocate FTE funding either facilitate or create challenges for online programs. In Colorado, for example, funding is either full-time or half-time. This is problematic because some students may not take enough courses to equal half- or full-time. Minnesota, on the other hand, uses a per-course apportionment, which makes it easier to capture a true count of those actually taking (and completing) online courses.
- **Enrollment or Course Completion.** Another key issue here is whether or not a state chooses to fund enrollment or course completions. If funding based on enrollment, there is the potential to over-allocate resources for online students who drop out. One panelist claimed that in Colorado,

for example, because online programs are not obligated to educate all students, an online program can count students on "count day" (October 1st) and receive an allocation for them, even if the student drops out and does not complete the course. Questions about whether this is unfair profiteering have been raised in this state. On the flip side, in states that base their funding on course completion counts, the potential for creating a built-in incentive for programs to inflate grades so that more students complete courses exist. These issues need to be resolved by policy leaders considering online education.

### Policy themes across states

Policy issues that all states had in common included:

- **The importance of distinguishing between full-time online programs and those that provide supplemental courses.** All panelists agreed that these should be regarded as two distinct types of virtual schools possibilities that have different sets of cost implications. Full-time programs, in general, cost more.
- **The need to identify the true cost of quality online education.** Knowing exactly what it costs to provide a quality online education was a challenge all states faced. According to the panel participants, many state policy leaders underestimate the true cost of providing a quality online education and this is a growing concern.

Based on the experience of current online programs, it is clear that there is a wide range of quality and cost-levels associated with online education. With no standards or definitions for quality established within or across states, the tendency might be to aim for the lowest-cost option, which may not yield the highest quality program. Policy makers need to gain a better appreciation for what the value of their investment is and what range of options are available in online learning.

- **The need to educate state policy makers about the benefits, costs, opportunities, and limits of online education.** All panelists expressed frustration at state policy makers' lack of knowledge and understanding of online learning. The tendency to over-simplify issues associated with online education and apply policies meant for the bricks and mortar world may undermine the potential of online education to expand opportunities for students and hamper the development of high quality programs.

*"If people don't understand it, they're not going to support it. It's important to constantly get legislators and others to understand. People just don't know what this is all about so there is skepticism. They don't know what's involved, what are the details and it's easy to be confused by the abuse stories."*

Panelists acknowledged the proliferation of the attitude that online education costs less than education in a bricks and mortar setting. This is a challenge for leaders looking to make smarter, up-front investments in the development of high quality programs that might lead to both improved learning options for students and cost-savings, over time. Panelists cited the need to look at the example of post-secondary education which has discovered that

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good, quality online learning is not cheap. Over time, however, through scaling up, and course replication, institutions can save money in the long term.

- **The rapid growth of demand for online education.** All participants acknowledged the rapid growth and rising demand for online education in their states. Some panelists even acknowledged the need for their states to "catch up" so it would not be left behind the curve. Leaders in this state were increasingly becoming aware of the need to become more proactive in thoughtfully developing online learning options for students.
- **The struggle to ensure equitable access to the benefits of online education to all students as growth takes place.** Panelists continuously raised questions about the importance of ensuring some level of equity in opportunities for students to benefit from online learning. As more affluent school districts develop their own online programs and states play little or no role in developing quality online programs for all students, the potential for a large equity gap increases.
- **A concern for protecting the potential for innovation inherent in online education while operating within an environment of scarce resources.** Leaders involved in online learning are reluctant to couch policy and other decisions in terms (and parameters) limited by the bricks and mortar world. By placing too much definition and limitations in order to distribute scarce resources, online educators fear that the full potential of virtual schools will not be realized. Panelists wondered, "How do you count for costs for technological innovations when you're in a budget constrained world?" They shared a concern that policy makers would view a ceiling rather than a floor and urged them to think about ways to promote the notion of continuous improvement.

Other questions concerning the value of the dollar spent on online education vs. the value of the dollar spent on education in a traditional, bricks and mortar setting were raised. As one panelist asked, "What sort of education can you provide for the same amount of money? Maybe [online education] is better?" Another panelist pointed out that given the fact that nearly 25% of students do not choose traditional public education, is the continued investment in that form of education relevant?

- **Evaluation and Accountability.** Establishing a framework to assure quality programming and applying consistent accountability policies for online education programs was an issue that all states shared. There was a noted difference between the evaluative capacity for accountability and continuous improvement in state-established online programs and those within states that operated in a more decentralized framework.

Through the discussion, panelists overwhelmingly felt that quality online education programs were more inherently accountable for learning outcomes than traditional bricks and mortar schools. More data are available to analyze student learning and other factors in online settings, which can lead to teachers holding students accountable for a higher standard of rigor. According to panelists, as online programs have evolved, they have had to hold themselves to higher levels of accountability standards in order to prove themselves to state policy makers and others who were skeptical about their offerings. Several panelists felt hopeful about the potential con-

tributions online education would make to the future of teaching and learning.

A few panelists wondered if it would be beneficial for states to establish a separate entity to oversee online programs. In general, the question of whether accountability and oversight for online education should be a separate thing or just built into the existing system is one that state policy makers must wrestle with.

### Thoughts for the future

- **The need to re-think school finance, in general.** Some panelists expressed concern about building funding models for online learning into existing school finance formulas questioning the wisdom of tying a potentially new system with one that is already problematic and fraught with challenges. With so much inequity built-in already, why tie a new system to this antiquated one? This panelist saw a unique opportunity for online education to be part of driving a push toward weighted student formulas and other innovations in school finance.
- **Potential for litigation based on access to online education.** One panelists raised a question about the potential for litigation based on access to online education or possibly based on a funding discrepancy for online programs when compared with traditional programs.
- **Potential for improving concepts of and innovations for teaching and learning.** Panelists acknowledged that online learning is one of the few places in education where leaders and educators are coming together to talk about re-designing instructional models for a more effective delivery system for students to learn and achieve results. This focus on competency offers an opportunity to shift thinking about what matters in education. The sophisticated use of data in online settings allows programs to track competency, rather than something more subjective, or simply seat time.

In the online environment, the potential for teachers to identify the students' specific learning need, at the point in time when that occurs exists. This greatly enhances the potential for differentiated instruction and other interventions to be applied to ensure that the student actually learns and succeeds.

- **The need to improve state data systems and the policies that govern data collection for accountability.** One panelist expressed concern that the push to improve states' data systems in order to comply with current school accountability policies was in danger of becoming a moot effort. In a world where learning is fast becoming something new, and its measurement something even more sophisticated, online educators are beginning to ask, are we measuring the right things? "The whole focus is on improving the data system to test the jalopy," stated one panel member. Or, put in another way, "We have legacy systems and we're just trying to update them to meet the needs of NCLB. What we have in the [some of the ] virtual school models are the data systems that we [really need]. You don't want to invest in the old, if you really hope to go to the new."

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- **The growing demand for online course content.** Panelists acknowledged that traditional, bricks and mortar schools were increasingly seeking online content as part of classroom instruction. Given the large costs associated with quality course development, states may do well to consider making large investments in the development of high quality content, online, for both a bricks and mortar and a virtual world. As one panelist stated, "The brick-and-mortar desire for online content is present as well. So you're not going to invest in two forms of content forever."

## **Summary**

State policy makers have much to consider to successfully navigate and capture the potential of virtual schools within their states. Policy leaders may do well to consider some fundamental questions in their quest to identify the most appropriate policy framework for their state.

1. What purpose does online education serve in your state?
  - Is it to provide enrichment opportunities for students?
  - Is it to expand access (and achieve an economy of scale) to learning for all students across the state?
  - Is it to provide an alternative method of delivering instruction?
2. What is the state's role in investing in, developing, coordinating, governing, and funding online education?
3. To what degree should online education be developed as a separate system with its own separate vehicle (and policies) for governance, oversight and funding? To what degree should online education be integrated into the existing educational governance and finance systems?